(54) **Device for multimode management of a cursor on the screen of a display device**[1]
Vorrichtung zur verschiedenartigen Steuerung eines Cursors auf dem Bildschirm einer Anzeigevorrichtung

Cursor multimode control device for a display tube unit

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[1] Translator's note: This is the title of the U.S. patent based on the underlying French patent, which more accurately reflects the original French than the English title shown under (54) on the EPO cover sheet ("Cursor multimode control device for a display tube unit").

[...]

With a view to achieving these results, this management device uses a control source consisting of a touch tablet[2] of the type comprising a touch surface[3] and a means enabling detection of a force exerted on said surface.

According to the invention, this device is characterized in that it comprises a selection means enabling switching from one of the two pointing modes to the other depending on whether the force exerted exceeds or is less than a predetermined threshold value.

Advantageously, in the absence of force exerted on the touch surface, or when this pressure remains below said threshold, the selection means selects the relative pointing mode, whereas when the force rises above said threshold, the selection means selects the absolute pointing mode.

By virtue of this arrangement, the operator can notably quickly place the cursor in a zone of the screen by exerting a pressure on the touch tablet (absolute pointing mode) and then move this cursor with the accuracy provided by the relative mode, by displacing his/her finger while releasing the pressure.

Of course, the operator could also remain in the absolute mode by displacing his/her finger while maintaining pressure exceeding said threshold on the touch surface.

This combination of the two pointing modes, theoretically not very compatible, therefore proves to be particularly advantageous.

[...]

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[2] Translator's note: The U.S. patent, which is a translation of the French patent, calls this a "touch-sensitive work board" and the European Patent Office English-language abstract of the French-language patent calls it a "touch tablet."

[3] Translator's note: As above, the U.S. patent calls this a "touch-sensitive surface" and the EPO English abstract calls it a "touch surface."

[...]

In the examples illustrated in Figures 1 and 2, the touch surface 1 and the screen 2 have been schematically represented by two respective rectangles, that of the screen having larger dimensions than that of the touch surface.

The touch surface 1 can be of a conventional type, e.g. of capacitive, resistive, optical, piezoelectric type, etc.

[...]

As previously mentioned, with a view to combining the advantages of the two previously described pointing modes, the invention proposes to use, as control source, a touch tablet 8 comprising, as represented in Figure 3, a mobile supporting structure 9 having a flat rigid surface, mounted on a fixed structure 10 through the intermediary of an effort measurement system using, between these two structures, springs 11 and a displacement sensor 12.

The flat surface of the mobile structure is covered with the touch surface 1 previously described.

The effort measurement systems serves here to select the pointing mode used by the touch tablet: in this way, in the case of the pressure exerted on the touch tablet 8 being nil or below a predetermined threshold value F, the computer 7 transmits the coordinates in the relative mode (relative pointing mode).

Conversely, when the operator exerts, on the touch tablet 8, a pressure f exceeding the threshold value, the sensor 12 transmits a signal causing the relative pointing mode to switch to the absolute pointing mode and therefore computes the coordinates in the absolute mode.

[...]